

Application No. 10/775,979

Reply to Office Action

**REMARKS***Discussion of Claim Amendments*

Claims 2-3 have been amended to recite that the ink composition is free of an epoxy resin. Amended claims 2-3 are supported by the original claims and the specification, e.g., page 5, paragraph [0024], wherein epoxy resin is disclosed. As the applicants have a genus and some species, they ought to be able to claim the genus minus a disclosed species. See, e.g., *In re Johnson*, 558 F.2d 1008, 194 USPQ 187 (CCPA 1977). Claim 3 also has been amended to recite that the composition includes a vinyl resin. Claim 17 has been amended to replace "co-binder" with --vinyl--. Claims 4, 7, 12, 14-17, and 22 have been amended to depend from claim 2, rather than from canceled claim 1. Claims 10, 11, and 18 also have been canceled. New claims 28-30 have been added and are directed to embodiments of the invention. Claims 28-30 are supported by the original claims and the specification, e.g., paragraph [0024]. No new matter has been added.

*The Office Action*

The Office Action sets forth the following grounds for rejection:

1. Claims 1, 3, 4, 7, 8, 10, 12, 13, and 15 are rejected under 35 U.S.C. § 102(b), as allegedly anticipated by Bhatia et al. (USP 5,567,213);
2. Claims 1, 3, 4, 10, 12, and 15-22 are rejected under 35 U.S.C. § 103(a), as allegedly unpatentable over Airey et al. (USP 5,407,474);
3. Claims 1-3, 7, and 10-13 are rejected under 35 U.S.C. § 103(a), as allegedly unpatentable over JP 05-098203; and
4. Claims 23-27 are rejected under 35 U.S.C. § 103(a), as allegedly unpatentable over Bhatia et al.

*Discussion of Anticipation Rejection*

Claims 1, 3, 4, 7, 8, 10, 12, 13, and 15 are rejected as allegedly anticipated by Bhatia et al. Although applicants disagree, the claims have been amended to expedite prosecution. Claims 1 and 10 have been canceled. Applicants have amended claim 3, as indicated, to include a vinyl resin in the ink composition. Claims 4, 7, 8, 12, 13, and 15 are directly or ultimately dependent upon claim 2, which also recites a vinyl resin. To anticipate, in terms of

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35 U.S.C. § 102, every element of the claimed invention must be identically shown in a single reference. *Diversitech Corp. v. Century Steps, Inc.*, 850 F.2d 675, 677, 7 USPQ2d 1315, 1317 (Fed. Cir. 1988). Bhatia et al. fails to disclose a jet ink composition containing a vinyl resin. In view of the foregoing, applicants respectfully submit that the present claims, including new claims 28-30, are novel over Bhatia et al. Bhatia et al. also fails to suggest to those of ordinary skill in the art the presently claimed invention.

#### *Discussion of Obviousness Rejections*

To establish a *prima facie* case for obviousness, the Office must satisfy *three* requirements: (1) the prior art relied upon must contain some suggestion or incentive, coupled with knowledge generally available in the art at the time of the invention that would have motivated those of ordinary skill in the art to modify a reference or combine the references. See, *Karsten Mfg. Corp. v. Cleveland Golf Co.*, 242 F.3d 1376, 1385, 58 USPQ2d 1286, 1293 (Fed. Cir. 2001) (“in holding an invention obvious in view of a combination of references, there must be some suggestion, motivation, or teaching in the prior art that would have led a person of ordinary skill in the art to select the references and combine them in a way that would produce the claimed invention.”); (2) the proposed modification of the prior art must have had a reasonable expectation of success, determined from the vantage point of the skilled artisan at the time the invention was made. In other words, hindsight analysis is not allowed. See *Amgen, Inc. v. Chugai Pharm. Co.*, 927 F.2d 1200, 1209, 18 USPQ2d 1016, 1023 (Fed. Cir. 1991) (“While the idea of using a monkey gene to probe for a homologous human gene may have been obvious to try, many pitfalls existed that would have eliminated a reasonable expectation of successfully obtaining the EPO gene. Hindsight is not a justifiable basis on which to find that ultimate achievement of a long sought and difficult scientific goal was obvious.”); and (3) the prior art reference or combination of references must teach or suggest all the limitations of the claims. See *In re Wilson*, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970) (“All words in a claim must be considered in judging the patentability of that claim against the prior art.”). The Office would fail to satisfy one or more of the above requirements, as discussed below.

(1) Claims 1, 3, 4, 10, 12, and 15-22 are rejected as allegedly unpatentable over Airey et al. The Office Action states that Airey et al. teaches a pigmented ink jet ink

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composition comprising a binder resin, and that the binder resin may comprise one or more resins such as rosins, esterified resins, acrylic, and styrene acrylic. The Office Action admits that the cited reference fails to specifically exemplify the use of methyl ethyl ketone as a solvent and the specific resins claimed by the applicants. However, the Office Action argues that it would have been obvious to one of ordinary skill in the art use to use methyl ethyl ketone and the specific resins to arrive at the presently claimed invention.

Although applicants disagree, the claims have been amended. Claims 1, 10, and 18 have been canceled. Claim 3 has been amended to include vinyl resin in the ink composition. Claims 4, 12, 15-17, and 19-22 are directly or ultimately dependent upon claim 2, which also recites a vinyl resin. Airey et al. fails to disclose or suggest to those of ordinary skill in the art the presently claimed invention, particularly an ink jet ink composition comprising a rosin resin *and* a vinyl resin. The Office would fail to make a *prima facie* case for obviousness of these claims.

Ink jet nozzles get blocked because they are very small in diameter (10-100 microns) Airey et al. attempts to solve this problem. Airey et al. attempts to provide an ink composition containing pigment with maximum particle size sufficiently small not to block the nozzles, and the particle size range is sufficiently narrow for the ink to have a low enough viscosity for the printer to operate (col. 2, lines 60-68). According to Airey et al., "the properties of the *pigment* are *crucial* to performance" (col. 3, lines 60-61) (Emphasis added). There is no teaching or suggestion to those of ordinary skill in the art that a vinyl resin should be used in combination with a rosin resin to improve the properties of the ink composition. Airey et al. mentions that a film former/binder/hardener may be present in an amount of from 0-20 wt% (col. 3, line 23 and claim 12). Thus, a film former/binder/hardener can be present or can be absent (0 wt%). The Examples provide ink compositions containing styrene acrylic (Example 1) or polyvinyl alcohol (Example 3) as binder/film former. Example 2 does not even contain a binder/film former. The scope and content of the cited reference are limited. Those of ordinary skill in the art would have no motivation to select a vinyl resin, which is not disclosed or suggested, to be used in conjunction with a rosin resin as in the presently claimed invention. There is no incentive or desirability for modifying Airey et al. to include a vinyl resin and a rosin resin simultaneously in the ink composition.

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Moreover, the prior art does not suggest all of the limitations of the claims. The claim limitation of vinyl resin cannot be found in the cited art. Further, the claimed ink composition is free of an epoxy resin. On the contrary, Airey et al. teaches that epoxies can be used as a binder (col. 3, line 41).

In view of the foregoing, applicants respectfully submit that the present claims, including claims 28-30, are patentable over Airey et al.

(2) Claims 1-3, 7, and 10-13 are rejected as allegedly unpatentable over JP '203 (machine translation). The Office Action states that JP '203 teaches an ink composition comprising an oil color, resin, and an organic solvent. The Office Action further states that JP '203 teaches that the resin may be a combination of epoxy resin, acrylic resin, silicone resin, phenol resin, salt vinyl acetate system resin, and rosin ester. The Office Action admits that JP '203 fails to specifically disclose the use of the methyl ethyl ketone and the specific resins claimed by the applicants. However, the Office Action argues that it would have been obvious to one of ordinary skill in the art to use methyl ethyl ketone and the specific resins disclosed to arrive at the presently claimed invention.

Although applicants disagree with the rejection, applicants have canceled claim 1, and amended claims 2-3 to recite that the ink composition is free of an epoxy resin. In addition, claims 2-3 require that the ink composition comprises a rosin resin *and* a vinyl resin. Claim 10 has been canceled. Claims 7 and 12-13 are dependent claims. JP '203 fails to suggest to those of ordinary skill in the art the presently claimed invention.

JP '203 teaches that the ink composition must contain an epoxy resin. See, for example, claim 1 of JP '203: "Marking ink jet for jet printers *characterized by epoxy* value containing the modified *epoxy resin* of 0.2 or less equiv/kg in the ink for jet printers containing an oil color, resin, and an organic solvent." See also paragraph [0007]: "This invention relates to the marking ink for jet printers *characterized by epoxy* value containing the modified *epoxy resin* of 0.2 or less equiv/kg in the ink for jet printers containing an oil color, resin, and an organic solvent." See also paragraphs [0008-0010], describing the epoxy resin and modifiers thereof in detail, paragraphs [0016-0017], describing synthetic examples

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of modified epoxy resins having an epoxy value of 0.14 and 0.16 equiv/kg, and paragraphs [0018-0027], describing specific examples of the ink composition containing an epoxy resin.

While other resins are mentioned, JP '203 teaches that these other resins can be used *in combination* with the modified epoxy resin. See paragraph [0011]: "It is the purpose which raises the abrasion resistance of a printing coat, a water resisting property, etc. to the marking ink for jet printer - of this invention, and *it is possible to use together a modified epoxy resin and other solvent fusibility resin* with good compatibility." (Emphasis added).

The foregoing clearly shows that a modified epoxy resin is an important requirement for the ink composition disclosed in JP '203. Other resins such as acrylics, styrene acrylics, etc. are recommended only for use *in combination* with the epoxy resin. Without the epoxy resin, the ink composition of JP '203 would fail to function for the intended purpose. Thus, there is no motivation to arrive at the presently claimed invention, which is free of an epoxy resin. There is no suggestion to drop the epoxy resin. The cited reference in fact teaches away from the claimed invention by requiring the presence of a modified epoxy resin.

In view of the foregoing, applicants respectfully submit that the present claims, including claims 28-30, are patentable over JP '203.

(3) Claims 23-27 are rejected as allegedly unpatentable over Bhatia et al. The Office Action admits that Bhatia et al. fails to teach the substrates as set in these claims. However, the Office Action argues that it would have been obvious to one of ordinary skill in the art to use the ink composition taught by Bhatia et al. on the claimed substrates for the alleged reason that Bhatia et al. teaches printing on substrates that are not paper.

Applicants respectfully submit that the obviousness rejection cannot stand in view of the amendment to claim 2, upon which the rejected claims are ultimately dependent. Bhatia et al. fails to suggest the subject matter of claim 2 as discussed above. At least for these reasons, Bhatia et al. fails to suggest to those of ordinary skill in the art the subject matter of claims 23-27. In view of the foregoing, applicants respectfully submit that the present claims, including claims 28-30, are patentable over Bhatia et al.

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*Conclusion*

The application is considered in good and proper form for allowance. If, in the opinion of the Examiner, a telephone conference would expedite the prosecution of the subject application, the Examiner is invited to call the undersigned attorney.

Respectfully submitted,



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Date: January 4, 2006